

Hall Ticket No: 

--	--	--	--	--	--	--	--	--	--

Question Paper Code: 22MBAP101

**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**  
(UGC-AUTONOMOUS)**MBA I Year I Semester (R22) Supplementary End Semester Examinations, March - 2025**  
**MANAGEMENT PERSPECTIVES AND ORGANIZATIONAL BEHAVIOR**

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.  
In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.

Q.No	Question	Marks	CO	BL
Q.1(A)	Discuss why Corporate Social Responsibility important in India.	10M	1	2
<b>OR</b>				
Q.1(B)	Explain the principles of ethics.	10M	1	2
Q.2(A)	List any four differences between formal and informal organizations?	10M	2	3
<b>OR</b>				
Q.2(B)	Describe the steps in involved in controlling process.	10M	2	2
Q.3(A)	Explain the factors influencing perception,	10M	3	2
<b>OR</b>				
Q.3(B)	Discuss the Porter and lawler theory of motivation.	10M	3	2
Q.4(A)	Elaborate two-dimensional Managerial grid.	10M	4	4
<b>OR</b>				
Q.4(B)	Critically analyze types of conflicts and its consequences and explain the ways to manage conflicts?	10M	4	4
Q.5(A)	Discuss the factors contributing towards creating sustainable culture?	10M	5	2
<b>OR</b>				
Q.5(B)	Explain coping strategies to overcome stress?	10M	5	2
Q.6	<b>CASE STUDY</b> Ragni is a chief executive officer of Peak Electronics, faced a difficult decision. Her company was a leader in making parts for standard cassette and reel-to-reel tape recorders. Ragni had watched with some misgivings as digital technology hit the market in the form of compact disc players, and she had to decide whether to lead Peak into the digital age. Even though digital tape players were encountering legal hurdles in the American market, they were starting to take hold in Japan and Europe. Was America—and Peak—ready for them? Ragni had plenty of help in making the decision. First she met with the company's marketing division. Everyone had an opinion. Some predicted that every audio component would be digital by the turn of the century; others believed the popularity of even compact disc players was already waning. Everyone agreed that they needed time to conduct surveys, gather data, and find out what products the public really wanted and how much they would be willing to pay for them. The people in research and development had a different approach. They were tired of making small improvements in a mature and perfected product. They had been reading technical material about digital tape, and they saw it as an exciting new technology that would give an innovative company a chance to make it big. Time was of the essence, they insisted. If Peak was to become an important supplier of parts for	10M	2	5

the new decks, it had to have the components ready. Delay would be fatal to the product.

A meeting of the vice presidents produced a scenario with which Ragni was all too familiar. Years ago these executives had discovered that they could not outargue one another in these meetings, but they had faith in their staffs' abilities to succeed where they had failed. Before Ragni even walked into the room, she knew what their recommendation would be: to create a committee of representatives from each division and let them thoroughly investigate all aspects of the decision. Such an approach had worked before, but Ragni was not sure it was right this time.

Desperate to make the decision and get it out of her mind, Ragni mentioned it to her fifteen-year-old son, who, it turned out, knew everything about digital tape. In fact, he told her, one of his friend—the rich one—had been holding off on buying a new tape deck so that he would be on the cutting edge of digital recording. "It's gotta happen, Mom," her son said. "People want it."

Intellectually, Ragni believed he was right. The past thirty years had shown that Americans had an insatiable appetite for electronic gadgets and marvels. Quadraphonic sound and video discs were the only exceptions she could think of to the rule that if someone invented an improved way of reproducing images or sound, someone else would want to buy it.

But intuitively, Ragni was not so sure. She had a bad feeling about the new technology. She believed the record companies, which had lost the battle to tape manufacturers, might get together with compact disc makers and audio equipment manufacturers to stop the digital technology from entering the American market. So far, no American company had invested substantially in the technology, so no one had an interest in funding the legal battle to remove the barriers to the new machines.

Exhausted, Ragni went to bed. She hoped that somehow her subconscious mind would sort out all the important factors and she would wake up knowing the right decision.

#### Case Questions

1. What sources of information and opinion about the new technology seem most reliable?

Which would you ignore?

2. If you were Ragni, what would your next step be?

\*\*\*END\*\*\*

Hall Ticket No: 

--	--	--	--	--	--	--	--	--	--

Question Paper Code: 22MBAP102

**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**  
(UGC-AUTONOMOUS)

MBA I Year I Semester (R22) Supplementary End Semester Examinations, March - 2025

**MANAGERIAL ECONOMICS**

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.  
In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.

Q.No	Question	Marks	CO	BL
Q.1(A)	Explain the Nature and Scope of Managerial Economics.	10M	1	2
<b>OR</b>				
Q.1(B)	Elucidate how economics is interrelated with other functional areas.	10M	1	3
Q.2(A)	Explain the types of elasticity of demand in detail.	10M	2	2
<b>OR</b>				
Q.2(B)	Examine the various techniques of demand forecasting.	10M	2	2
Q.3(A)	Bring out the difference between increasing, decreasing and constant returns to scale with the help of suitable figures only.	10M	3	3
<b>OR</b>				
Q.3(B)	Describe cost and output relation in short run and long run.	10M	3	2
Q.4(A)	Explain with diagrams price and output determination under perfect competition.	10M	4	2
<b>OR</b>				
Q.4(B)	Explain the various pricing methods.	10M	4	2
Q.5(A)	What are various economic indicators for measuring national performance? Explain.	10M	5	3
<b>OR</b>				
Q.5(B)	Distinguish between Gross Domestic Product and Gross National Product.	10M	5	3
Q.6	<b>CASE STUDY</b> Economic Analysis of Agriculture Irony is the nature of the economics of agriculture; even as many in America still struggle with hunger, the government has been offering subsidies to the American farmer to artificially raise the price of produce, in some cases since 1933. History of Subsidies Because a typical farmer is so small compared to the entire market for the good, he or she offers, they cannot affect the price of the good, or try to affect the price of good too efficaciously. Instead, they are referred to as 'price takers', who are forced to accept the market price. However, subsidies alter this economic situation to occasionally illogical results. At the end of World War I, farmers were rewarded by high prices as the government spent millions to rebuilt war-torn Europe. In fact, a small farmer who might have been almost forced to sell the farm before the war was in fact currently quite successful. However, in 1921, the nation fought through a recession as the farm goods they frequently produced outpaced demand, probably due to Europe's quick agricultural recovery. American farmers now suffered, and continued to do so into 1922, where virtually every industry had recovered except for agriculture. Large lands that had been opened up to feed Europe's millions pumped	10M	4	5

out more and more crops, but prices went lower and lower, and a surplus quickly accumulated that prevented prosperity.

#### Rising Anger of Farmers

Farmers could no longer meet the cost of production, and many were forced to leave their farms. Under neo-classical theory, this could be considered a frictional unemployment situation; as each farm increases production until it doesn't take as many to cover the market, some of them should switch to other tasks. This 'message of the market' was a message of sadness for many farmers. During the Great Depression, farmers were especially hurt. For example, low dairy prices due to increased production meant that Midwestern dairy farmers were earning less than ever. Milk, as a highly spoilable good, is a good example of 'perfect competition,' when farmers can only earn the price the market tells them. Even dairy farm strikes were ineffective, like those as a part of the Farmer's Holiday Association Strike of 1932 in Wisconsin and Iowa (some of these became violent as milk haulers and milkmen scuffed on the picket lines). Since the 1930s FDR worked to create a national program to guarantee income to farmers by enacting a significant number of measures to raise prices, beginning with the creation of the Agricultural Adjustment Administration in May 1933, which began the subsidy system that continues to this day, even though the AAA was declared unconstitutional in 1936. The AAA measures paid landowners to leave part of their land fallow. This did raise farmers' incomes, but consumers were forced to endure high food prices during the worse years of the Depression. Subsidies to farmers have been a part of the American agricultural system ever since. Bill Clinton attempted to reduce payments and increase diversity of crops with the Freedom to Farm Act in 1994. In 2000, however, the Farm Security and Rural Investment Act restored the farming subsidies. While it is true that some farmers struggle, the government spent \$30 billion dollars in subsidies yearly, even though it is estimated that it would only cost \$10 billion dollars in crop insurances and of her measures to bring the poorest farmers in America up to middle class. On May 14, 2002, President Bush signed a farm subsidy estimated to cost \$190 billion dollars over ten years, rekindling a national debate about subsidies. Today, large commercial farms dominate the agricultural market; 8% dominate 72% of sales. Farm policies are sometimes more the product of politics than economics. While security of the food supply and preservation of small family-owned farms are good goals, well-intentioned programs might be hugely inefficient. There are cost-effective ways of helping small farmers, including crop insurance, but today some of these measures are still not used.

#### Questions

1. Compare the earlier global agricultural scenario with the recent scenario. (as depicted in the case)
2. Do you agree that agriculture is a perfectly competitive industry?

\*\*\*END\*\*\*

Case study

**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**  
(UGC-AUTONOMOUS)

MBA I Year I Semester (R22) Supplementary End Semester Examinations, March - 2025

**ACCOUNTING FOR MANAGERS**

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.  
In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.

Q.No	Question	Marks																																																																								
Q.1(A)	Define 'accounting' and explain the concepts and conventions of accounting.	10M																																																																								
<b>OR</b>																																																																										
Q.1(B)	Enter the following transactions in the Journal of Bharat and sons. 2006 <table style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 80%;"></th><th style="text-align: right;">Amount (Rs)</th></tr></thead><tbody><tr><td>January 1 Tarun started business with cash</td><td style="text-align: right;">1,00,000</td></tr><tr><td>January 2 Goods purchased for cash</td><td style="text-align: right;">20,000</td></tr><tr><td>January 4 Machinery Purchased from Vibhu</td><td style="text-align: right;">30,000</td></tr><tr><td>January 6 Rent paid in cash</td><td style="text-align: right;">10,000</td></tr><tr><td>January 8 Goods purchased on credit from Ali</td><td style="text-align: right;">25,000</td></tr><tr><td>January 10 Goods sold for cash</td><td style="text-align: right;">40,000</td></tr><tr><td>January 15 Goods sold on credit to Gurmeet</td><td style="text-align: right;">30,000</td></tr><tr><td>January 18 Salaries paid.</td><td style="text-align: right;">12,000</td></tr><tr><td>January 20 Cash withdrawn for personal use</td><td style="text-align: right;">5,000</td></tr></tbody></table>		Amount (Rs)	January 1 Tarun started business with cash	1,00,000	January 2 Goods purchased for cash	20,000	January 4 Machinery Purchased from Vibhu	30,000	January 6 Rent paid in cash	10,000	January 8 Goods purchased on credit from Ali	25,000	January 10 Goods sold for cash	40,000	January 15 Goods sold on credit to Gurmeet	30,000	January 18 Salaries paid.	12,000	January 20 Cash withdrawn for personal use	5,000	10M																																																				
	Amount (Rs)																																																																									
January 1 Tarun started business with cash	1,00,000																																																																									
January 2 Goods purchased for cash	20,000																																																																									
January 4 Machinery Purchased from Vibhu	30,000																																																																									
January 6 Rent paid in cash	10,000																																																																									
January 8 Goods purchased on credit from Ali	25,000																																																																									
January 10 Goods sold for cash	40,000																																																																									
January 15 Goods sold on credit to Gurmeet	30,000																																																																									
January 18 Salaries paid.	12,000																																																																									
January 20 Cash withdrawn for personal use	5,000																																																																									
Q.2(A)	"Trial Balance is not a conclusive evidence of accuracy of accounts." Discuss.	10M																																																																								
<b>OR</b>																																																																										
Q.2(B)	Ashok's Trial Balance as on 31 <sup>st</sup> March, 2007 is given below. You are required to prepare Trading and Profit and Loss Account for the year ended 31 <sup>st</sup> March, 2007 and Balance Sheet as on that date after taking into account the given adjustments.  <table style="width: 100%; border-collapse: collapse; margin: 10px auto;"><thead><tr><th colspan="4" style="text-align: center;">Trial Balance as on 31<sup>st</sup> March, 2007</th></tr><tr><th style="width: 25%;">Particulars</th><th style="width: 15%;">Amt. (Rs.)</th><th style="width: 25%;">Particulars</th><th style="width: 35%;">Amt. (Rs.)</th></tr></thead><tbody><tr><td>Purchases</td><td style="text-align: right;">98,000</td><td>Capital</td><td></td></tr><tr><td>Machinery</td><td style="text-align: right;">4,000</td><td></td><td style="text-align: right;">70,000</td></tr><tr><td>Building</td><td style="text-align: right;">1,00,000</td><td></td><td></td></tr><tr><td>Stock (1.04.2006)</td><td style="text-align: right;">15,000</td><td>Reserve</td><td style="text-align: right;">7,000</td></tr><tr><td>Printing and Stationery</td><td style="text-align: right;">1,750</td><td>Creditors</td><td style="text-align: right;">45,000</td></tr><tr><td>Sundry Debtors</td><td style="text-align: right;">35,000</td><td>Bank overdraft</td><td style="text-align: right;">12,000</td></tr><tr><td>Salaries</td><td style="text-align: right;">11,000</td><td>Sales</td><td style="text-align: right;">1,58,000</td></tr><tr><td>Audit Fees</td><td style="text-align: right;">700</td><td>Bills payable</td><td style="text-align: right;">250</td></tr><tr><td>Sundry Expenses</td><td style="text-align: right;">3,500</td><td>Purchase Returns</td><td style="text-align: right;">3,500</td></tr><tr><td>Furniture</td><td style="text-align: right;">8,000</td><td></td><td></td></tr><tr><td>Investment</td><td style="text-align: right;">10,000</td><td></td><td></td></tr><tr><td>Cash</td><td style="text-align: right;">4,000</td><td></td><td></td></tr><tr><td>Advertisement</td><td style="text-align: right;">800</td><td></td><td></td></tr><tr><td>Carriage Inwards</td><td style="text-align: right;">1,300</td><td></td><td></td></tr><tr><td>Travelling Expenses</td><td style="text-align: right;">2,700</td><td></td><td></td></tr><tr><td></td><td style="text-align: right;"><b>2,95,750</b></td><td></td><td style="text-align: right;"><b>2,95,750</b></td></tr></tbody></table> <b>Adjustments:</b> (1) Closing stock is valued at the cost of Rs. 15,000. (2) Outstanding salaries Rs.3,500. (3) Outstanding interest receivable on investment Rs.600. (4) Depreciate machinery by 10%. (5) Charge 5% for bad debts.	Trial Balance as on 31 <sup>st</sup> March, 2007				Particulars	Amt. (Rs.)	Particulars	Amt. (Rs.)	Purchases	98,000	Capital		Machinery	4,000		70,000	Building	1,00,000			Stock (1.04.2006)	15,000	Reserve	7,000	Printing and Stationery	1,750	Creditors	45,000	Sundry Debtors	35,000	Bank overdraft	12,000	Salaries	11,000	Sales	1,58,000	Audit Fees	700	Bills payable	250	Sundry Expenses	3,500	Purchase Returns	3,500	Furniture	8,000			Investment	10,000			Cash	4,000			Advertisement	800			Carriage Inwards	1,300			Travelling Expenses	2,700				<b>2,95,750</b>		<b>2,95,750</b>	10M
Trial Balance as on 31 <sup>st</sup> March, 2007																																																																										
Particulars	Amt. (Rs.)	Particulars	Amt. (Rs.)																																																																							
Purchases	98,000	Capital																																																																								
Machinery	4,000		70,000																																																																							
Building	1,00,000																																																																									
Stock (1.04.2006)	15,000	Reserve	7,000																																																																							
Printing and Stationery	1,750	Creditors	45,000																																																																							
Sundry Debtors	35,000	Bank overdraft	12,000																																																																							
Salaries	11,000	Sales	1,58,000																																																																							
Audit Fees	700	Bills payable	250																																																																							
Sundry Expenses	3,500	Purchase Returns	3,500																																																																							
Furniture	8,000																																																																									
Investment	10,000																																																																									
Cash	4,000																																																																									
Advertisement	800																																																																									
Carriage Inwards	1,300																																																																									
Travelling Expenses	2,700																																																																									
	<b>2,95,750</b>		<b>2,95,750</b>																																																																							
Q.3(A)	What is cash flow concept of the term 'funds'? How is funds flow statement is prepared under this concept?	10M																																																																								

**OR**

Q.3(B)	<p>The following are the Balance Sheet of NGS Ltd., as on 31<sup>st</sup> March, 2018 and 31<sup>st</sup> March, 2019.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 25%;">Liabilities</th> <th style="width: 12.5%;">2018</th> <th style="width: 12.5%;">2019</th> <th style="width: 25%;">Assets</th> <th style="width: 12.5%;">2018</th> <th style="width: 12.5%;">2019</th> </tr> </thead> <tbody> <tr> <td>Share Capital</td> <td>1,60,000</td> <td>2,20,000</td> <td>Building (Cost)</td> <td>1,40,000</td> <td>2,18,000</td> </tr> <tr> <td>P &amp; L Account</td> <td>2,50,000</td> <td>5,00,000</td> <td>Stock</td> <td>3,00,000</td> <td>3,50,000</td> </tr> <tr> <td>Creditors</td> <td>2,30,000</td> <td>1,80,000</td> <td>Bank</td> <td>40,000</td> <td>80,000</td> </tr> <tr> <td>Outstanding Exp.</td> <td>6,000</td> <td>3,000</td> <td>Preliminary Exp.</td> <td>14,000</td> <td>12,000</td> </tr> <tr> <td>Depreciation on building</td> <td>10,000</td> <td>11,000</td> <td>Debtors</td> <td>1,62,000</td> <td>2,54,000</td> </tr> <tr> <td></td> <td><b>6,56,000</b></td> <td><b>9,14,000</b></td> <td></td> <td><b>6,56,000</b></td> <td><b>9,14,000</b></td> </tr> </tbody> </table> <p><b>Additional Information:</b></p> <ol style="list-style-type: none"> <li>During the year a building which was purchased earlier for ₹ 14,000 (depreciation written off ₹ 1,000) was sold for ₹ 1,200.</li> <li>A dividend of ₹ 40,000 has been paid during the year.</li> </ol> <p>From the above information, you are required to prepare (A) A statement of changes in working capital (B) Funds flow statement</p>	Liabilities	2018	2019	Assets	2018	2019	Share Capital	1,60,000	2,20,000	Building (Cost)	1,40,000	2,18,000	P & L Account	2,50,000	5,00,000	Stock	3,00,000	3,50,000	Creditors	2,30,000	1,80,000	Bank	40,000	80,000	Outstanding Exp.	6,000	3,000	Preliminary Exp.	14,000	12,000	Depreciation on building	10,000	11,000	Debtors	1,62,000	2,54,000		<b>6,56,000</b>	<b>9,14,000</b>		<b>6,56,000</b>	<b>9,14,000</b>	10M
Liabilities	2018	2019	Assets	2018	2019																																							
Share Capital	1,60,000	2,20,000	Building (Cost)	1,40,000	2,18,000																																							
P & L Account	2,50,000	5,00,000	Stock	3,00,000	3,50,000																																							
Creditors	2,30,000	1,80,000	Bank	40,000	80,000																																							
Outstanding Exp.	6,000	3,000	Preliminary Exp.	14,000	12,000																																							
Depreciation on building	10,000	11,000	Debtors	1,62,000	2,54,000																																							
	<b>6,56,000</b>	<b>9,14,000</b>		<b>6,56,000</b>	<b>9,14,000</b>																																							

Q.4(A)	What is meant by Cost-Volume-Profit Analysis? Explain its application in managerial decision making.	10M
--------	------------------------------------------------------------------------------------------------------	-----

**OR**

Q.4(B)	<p>A company is considering expansion. Fixed costs amount to Rs.4,20,000 and are expected to increase by Rs.1,25,000 when plant expansion is completed. The present plant capacity is 80,000 units a year. Capacity will increase by 50 percent with the expansion. Variable costs are currently Rs.6.80 per unit and are expected to go down by Re.0.40 per unit with the expansion. The current selling price is Rs.16 per unit and is expected to remain the same under either alternative. What are the break-even points under either alternative? Which alternative is better and why?</p>	10M
--------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

Q.5(A)	Describe the features, merits and demerits of Computerised Accounting	10M
--------	-----------------------------------------------------------------------	-----

**OR**

Q.5(B)	Distinguish between manual accounting and Computerised accounting.	10M
--------	--------------------------------------------------------------------	-----

Q.6	<p style="text-align: center;"><b>Case Study</b></p> <p>The Directors of Ali Baba Ltd. provide you the following data relating to the Computer Component manufactured by them:</p> <table style="width: 100%; margin-left: 20%;"> <tr> <td style="width: 60%;">Sales 4,000 units @Rs.50 each</td> <td style="width: 10%; text-align: right;">Rs.</td> <td style="width: 30%; text-align: right;">2,00,000</td> </tr> <tr> <td>Production cost details:</td> <td style="text-align: right;">Rs.</td> <td></td> </tr> <tr> <td>Materials consumed</td> <td style="text-align: right;">80,000</td> <td></td> </tr> <tr> <td>Labour cost</td> <td style="text-align: right;">40,000</td> <td></td> </tr> <tr> <td>Variable overheads</td> <td style="text-align: right;">20,000</td> <td></td> </tr> <tr> <td>Fixed overheads</td> <td style="text-align: right;">30,000</td> <td style="text-align: right;">1,70,000</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right; border-top: 1px dashed black;">30,000</td> </tr> <tr> <td>Profit</td> <td></td> <td style="text-align: right; border-top: 1px dashed black;">30,000</td> </tr> </table> <p>They require you to answer their following queries:</p> <ol style="list-style-type: none"> <li>The number of units by selling which the company will be at break-even.</li> <li>The sales needed to earn a profit of Rs 60000.</li> <li>The extra units which would be sold to obtain the present profit if it is proposed to reduce the selling price by 20%</li> </ol>	Sales 4,000 units @Rs.50 each	Rs.	2,00,000	Production cost details:	Rs.		Materials consumed	80,000		Labour cost	40,000		Variable overheads	20,000		Fixed overheads	30,000	1,70,000			30,000	Profit		30,000	10M
Sales 4,000 units @Rs.50 each	Rs.	2,00,000																								
Production cost details:	Rs.																									
Materials consumed	80,000																									
Labour cost	40,000																									
Variable overheads	20,000																									
Fixed overheads	30,000	1,70,000																								
		30,000																								
Profit		30,000																								

\*\*\*END\*\*\*

**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**  
(UGC-AUTONOMOUS)**MBA I Year I Semester (R22) Supplementary End Semester Examinations, March - 2025**  
**BUSINESS STATISTICS FOR MANAGERS**

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.  
In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.

Q.No	Question	Marks																
Q.1(A)	<p>The following data give the savings bank accounts balances of nine sample households selected in a survey. The figures are in rupees.</p> <p style="text-align: center;">2,750 2,000 1,500 68,000 1761 1549 3750 1800 3000</p> <p>(i) Find the mean and the median for these data; (ii) Do these data contain an outlier? If so, exclude this value and recalculate the mean and median. Which of these summary measures has a greater change when an outlier is dropped? (iii) Which of these two summary measures is more appropriate for this series?</p>	10M																
<b>OR</b>																		
Q.1(B)	<p>The following data gives yield of milk in liters per day of two breeds of cow A and B as follows . Which breed is more consistent giving yield of milk .</p> <table border="1" style="margin-left: auto; margin-right: auto;"><tr><td style="padding: 2px;">BreedA(milk in ltr)</td><td style="padding: 2px;">16</td><td style="padding: 2px;">18</td><td style="padding: 2px;">15</td><td style="padding: 2px;">13</td><td style="padding: 2px;">18</td><td style="padding: 2px;">20</td><td style="padding: 2px;">19</td></tr><tr><td style="padding: 2px;">Breed B (milk in ltr)</td><td style="padding: 2px;">18</td><td style="padding: 2px;">20</td><td style="padding: 2px;">16</td><td style="padding: 2px;">14</td><td style="padding: 2px;">17</td><td style="padding: 2px;">20</td><td style="padding: 2px;">13</td></tr></table>	BreedA(milk in ltr)	16	18	15	13	18	20	19	Breed B (milk in ltr)	18	20	16	14	17	20	13	10M
BreedA(milk in ltr)	16	18	15	13	18	20	19											
Breed B (milk in ltr)	18	20	16	14	17	20	13											
Q.2(A)	<p>(i) Define conditional probability (ii) An MBA candidate applies for a job in two firms A and B. The probability of his being selected in firm A is 0.7 and being rejected is 0.5. The probability of at least one of his applications being rejected is 0.6. What is the probability that he will be selected in one of the firms?</p>	10M																
<b>OR</b>																		
Q.2(B)	<p>Covishield vaccine was administered to workers of a company. X denotes the number of heart beats per minute per worker and the following distribution was obtained under observation on the day of vaccination.</p> <table border="1" style="margin-left: auto; margin-right: auto;"><tr><td style="padding: 2px;">X</td><td style="padding: 2px;">40</td><td style="padding: 2px;">60</td><td style="padding: 2px;">68</td><td style="padding: 2px;">70</td><td style="padding: 2px;">72</td><td style="padding: 2px;">80</td><td style="padding: 2px;">100</td></tr><tr><td style="padding: 2px;">P(X)</td><td style="padding: 2px;">0.01</td><td style="padding: 2px;">0.04</td><td style="padding: 2px;">0.05</td><td style="padding: 2px;">0.80</td><td style="padding: 2px;">0.05</td><td style="padding: 2px;">0.04</td><td style="padding: 2px;">0.01</td></tr></table> <p>Find (i) <math>P(68 \leq X \leq 72)</math> and <math>P(X \geq 80)</math> (ii) the average and the variance of heart beats of vaccinated workers.</p>	X	40	60	68	70	72	80	100	P(X)	0.01	0.04	0.05	0.80	0.05	0.04	0.01	10M
X	40	60	68	70	72	80	100											
P(X)	0.01	0.04	0.05	0.80	0.05	0.04	0.01											
Q.3(A)	<p>If 20% of items produced by a factory are defective, find the probability that out of 6 rivets chosen at random (i) none (ii) exactly 4 (iii) at most 2 (iv) at least 3 rivets will be defective.</p>	10M																
<b>OR</b>																		
Q.3(B)	<p>An intelligent test was administrated to 1000 students. The average score of students was 42 with standard deviation of 24 .Find a</p> <p>(a) Number of students exceeding a score of 50. (b) Number of students scoring between 30&amp;50. (c) Value of score exceed bye top 100 students .</p>	10M																
Q.4(A)	<p>Samples of students were drawn from two colleges and their weights in kilograms during the lockdown period of COVID-19 are gathered and shown below</p>	10M																

	Mean	S.D	Sample size
College-A	55	10	400
College-B	57	15	100

Make a large sample test to test the significance of difference between the means at 5% l.o.s

**OR**

- Q.4(B) A sample of 26 bulbs gives a mean life of 990 hours with a standard deviation of 20 hours. The manufacturer claims that the mean life of bulbs is 1000 hours. Is the sample not up to the standard? (value of t-statistic for 25 df at 5% l.o.s is 1.708) 10M

- Q.5(A) Explain co-efficient of determination ? Find Karl Pearson's co-efficient of correlation for the data 10M

Marks in Accounts	75	77	79	81	83	85	87	89	91	93
Marks in Maths	50	55	60	65	70	75	80	85	90	95

**OR**

- Q.5(B) Regression equations are  $8X - 10Y + 66 = 0$ ,  $40X - 18Y = 214$ ; which is X on Y regression equation and if  $V(X) = 9$  find the standard deviation of Y. 10M

Q.6

**Case Study**

The following table gives the lactations completed by 1000 cows of Tharparker breed

No. of Lactations(X)	0	1	2	3	4	5	6	7	8	9	10
No. of Cows	300	205	155	126	90	47	350	185	13	85	3

10M

Fit a poisson distribution to the above data and find expected frequencies.

**\*\*\*END\*\*\***